2. Parfitt AM: The hyperparathyroidism of chronic renal failure: A disorder of growth. *Kidney Int* 52:3–9, 1997
3. Pavlovic D, Tomic Brzac G, Cala S, Jankovic N: The value of parathyroid sonography in secondary hyperparathyroidism. *Nephrol Dial Transplant* 12:367, 1997

Relationship between birth weight, glomerular number, and glomerular size

To the Editor: In a recent issue of *Kidney International* Mañalich et al confirm previous reports of a positive relationship between birth weight and glomerular number, and describe an inverse relationship between birth weight and glomerular size, a novel observation [1]. It is regrettable, however, that they chose the arbitrary value of 2500 g to distinguish "normal" from "low" birth weights since the gestational age of the infants ranged from 36 to 41 weeks. A weight of 2500 g is in approximately the 25th percentile at 36 weeks but well below the 3rd percentile at 41 weeks. This is important because other studies indicate that intrauterine growth retardation (IUGR), not low birth weight per se, is associated with oligonephronia in humans [2] (abstract; Leroy et al, *Ped Nephrol* 6:C21, 1992) as well as in rats [3]. It would be interesting to know if the difference in nephron numbers remained the same if the infants were divided according to whether their birth weights were above or below the 10th percentile for gestational age, a widely accepted criterion for IUGR. It would also be interesting to know whether there was a relationship between the presence or absence of IUGR and kidney weight, corrected for gestational age, as has been reported previously. The choice of symbols used in the figures was confusing. Infants were described as black, white, or at a gestational age younger than 38 weeks. Presumably those born before 38 weeks were also either black or white. Why separate the more mature infants by race but not these?

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REFERENCES

1. Mañalich R, Reyes L, Herrera M, *et al*: Relationship between weight at birth and the number and size of renal glomeruli in humans: A histomorphometric study. *Kidney Int* 58:770–773, 2000
2. Hinchcliffe SA, Lynch MRJ, Sargent PH, *et al*: The effect of intrauterine growth retardation on the development of renal nephrons. *Br J Obstet Gynaecol* 99:296–301, 1992
3. Merlet-Bénichou C, Gilbert T, Muffat-Joly M, *et al*: Intrauterine growth retardation leads to a permanent nephron deficit in the rat. *Pediatr Nephrol* 8:175–180, 1994

Reply from the authors

We used the value of 2500 g to divide "low" from "normal" weight at birth in our infants, regardless of whether the gestation was 36 or 41 weeks, following the guidelines of the World Health Organization [1, 2]. Only four of our infants with "normal" weight at birth could be considered to have intrauterine growth retardation (IUGR), as defined in the tables presently used in our country [3]. The issue of the relationship between IUGR and nephron number and size is important and not directly addressed in our paper. However, our results indicate a significant correlation between birth weight and the number of nephrons, as shown by others, and a significant inverse correlation between the number and the size of glomeruli, a novel finding, as correctly noted by Dr. Haycock.

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REFERENCES

1. World Health Organization: The incidence of low birth weight. A critical review of available information. *World Health Stat Q* 33:197–225, 1980
2. Salvador B: Multifactorial análisis of risk factors of low birth weight. Análisis multifactorial de los factores de riesgo de bajo peso al nacer. *Pan Am J Public Health* 2:1–6, 1997
3. McIlbbaine G, Howat RCL, Dunn F, Maxnaughton MC: The Scottish Perinatal Mortality Survey. *Br Med J* II:1103–1106, 1979